

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002559**Date Inspected:** 10-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Wu Ming Kai and See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** See Below**Summary of Items Observed:**

This Caltrans Quality Assurance (QA) Inspector, M. Paul Stovall, was present at Zhenhua Port Machinery Company (ZPMC) on Changxing Island, Shanghai, China to monitor the Quality Control (QC) functions during the fabrication of the Self Anchored Suspension (SAS) and Orthotropic Box Girder (OBG) section of the San Francisco/Oakland Bay Bridge.

New Tower Shop, Bay 1

This QA Inspector observed ZPMC welding personnel Wang Zhanghua, ID #053753, and Dai Lu, ID #048659 performing Shield Metal Arc Welding (SMAW) on Splice Connection plate weld numbers MUSB-MA25-17A / 17B and MUB-MA26-31A. The work observed was repair work for the 114-meter Mock-Up. The QA Inspector observed ZPMC QC monitoring the work. The QA Inspector observed the welding appeared to comply with Welding Procedure Specification (WPS) WPS-345-SMAW-2G (2F) and the contract documents.

OBG Pre-Assembly Area, Bay 2

This QA Inspector observed ZPMC personnel had placed a section of pipe inside the 114-Meter Mock-Up to assist with the bolting of the splice plates at the corners. This QA Inspector did not observe ZPMC personnel use a jack or any other mechanical means. This QA Inspector also observed that ZPMC had previously welded plates to the exterior corners to act as a guide for the installation of corner splice plates.

Bay 3

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This QA Inspector observed ZPMC welding personnel Li Wenguo, ID #066261, Liu Daiquan, #066401, and Liang Yin Hai, #066457 use the Flux Cored Arc Welding (FCAW) process to perform tack welding of WT stiffeners to Side Plates (SP) SP747-001 and SP521-001. The work appeared to comply with WPS-B-P-2112 and the contract documents.

This QA Inspector observed ZPMC welding personnel He Yumei, ID #048625 use the FCAW process to weld Complete Joint Penetration (CJP) splices on W21 x 57's.

The QA Inspector observed ZPMC QC personnel perform Magnetic Particle Testing (MT) on SP027-01-013, 014, 015, 016 and 023 and SP063-01-12 through 22. The QC inspector accepted the welds and the work observed appeared to comply with the contract requirements.

This QA Inspector observed various other fabrication processes such as ZPMC personnel drilling holes in the top flange of side panels.

Bay 4

This QA Inspector observed ZPMC personnel heat straighten various Internal Tower Diaphragm Plates. ZPMC QC personnel periodically monitored the temperature and checked the flatness before, during, and after the process.

This QA Inspector observed welding personnel Wang Zhonghua, ID, #053753 attaching lifting lugs to the edges of various plates using the SMAW process. The work appeared to comply with the contract documents.

The QA Inspector observed ZPMC personnel preheating Tower Internal Diaphragm plate weld joint number SSD1-SA27-1B. The QA Inspector observed the preheating process started at approximately 0800 and it was approximately 1530 before ZPMC personnel had the temperature of the material between the minimum preheat and maximum interpass temperature stabilized for welding to begin. The QA Inspector periodically monitored the operation this date observing ZPMC does not use thermocouples with ceramic heating pads to adjust the temperatures. The QA Inspector observed that ZPMC personnel have allowed the material to exceed the maximum interpass temperature five (5) times and cool to ambient temperature four (4) times during the preheating process this date.

Summary of Conversations:

The QA Inspector had ongoing conversations with ABF Inspectors John McDonald and C .K. Chen in regards preheat issues observed in Bay-4.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Stovall,Paul	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer
